NOTES & NEWS

A Note on the Occurrence of *Lithophaga (Leiosolenus) spatiosa* (Carpenter, 1857) in the Shell-Plates of *Acanthochitona hirudiniformis* (Sowerby, 1832)

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The lithophages and their coral hosts have been the subject of recent study (Kleeman, 1980; Morton & Scott, 1980), and also have been reported from a variety of other, perhaps unusual, hosts including other bivalve shells (Hodgkin, 1962; Keen, 1971) and chiton shell-plates (Bullock & Boss, 1971). This note reports their occurrence in another unusual host, an acanthochiton.

During a taxonomic investigation of the New World Cryptoplacidae I discovered the presence of *Lithophaga (Leiosolenus) spatiosa* (Carpenter, 1857) in the shell-plates of *Acanthochitona hirudiniformis* (Sowerby, 1832). These specimens, from a lot of 23 from the American Museum of Natural History, lot no. 162150, were collected at Cameron, Panama, by Eugene Bergeron in March of 1969. Bullock & Boss (1971) reported on a similar occurrence involving *Lithophaga (Myoforceps) aristata* (Dillwyn, 1877) in the shell-plates of *Chiton tuberculatus* Linnaeus, 1758, from the Caribbean, and *Chiton stokesii* Broderip, 1832, from the same region of the Eastern Pacific as *A. hirudiniformis* (Sowerby, 1832).

The observations on the three affected examples of *Acanthochitona* generally agree with those of Bullock and Boss in *Chiton*. The erosion of the shell-plates appears to be a prerequisite for lithophage burrowing as uneroded specimens were not affected. Burrows followed the direction of growth of the shell-plates and destruction involved both the tegmentum and the articulamentum. The formation of an initial burrow appeared to greatly enhance the chances of future infestations by allowing larval lithophages to settle in that burrow. The most heavily affected acanthochiton, 30 mm in length, contained 10 lithophages; the second specimen, 28 mm in length, contained 3 bivalves; the third, 23 mm in length, 1 bivalve. All lithophages were less than 3 mm in length.

Undermining by the bivalves results in a loss of functional esthetes and in greatly weakened shell-plates. Too little is known about the nature of acanthochiton esthetes to determine what type of sensory loss accompanies this burrowing or what effect this has upon the behavior of the chiton. More significant may be the weakening of the shell-plates by the burrows, which in the largest specimen were brittle and fragmented, exposing the chiton's underlying mantle. Obviously the small size of acanthochiton valves cannot support a lithophage to maturity; this unfortuitous relationship must be considered detrimental to both lithophage and chiton.

ACKNOWLEDGMENTS

I would like to thank Dr. R. C. Bullock for commenting upon early drafts of this note. The systematic studies of the acanthochitons were supported by a scholarship from the National Capital Shell Club and a Sigma Xi Grant-in-Aid of Research.

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